DECLARATION OF SUNDARESAN JAYARAMAN

I, Sundaresan Jayaraman, hereby declare and state as follows:

1. I am over eighteen years of age, I am competent to testify to the matters stated herein, and the matters stated in this Declaration are true and correct and based on my personal knowledge. This Declaration is being offered for any purpose allowed by law.

INDIVIDUALLY CONDUCTIVE FIBERS

2. The relevant portion of claim 1 reads as follows: "each conductive fiber being individually conductive prior to incorporation into the fabric[.]"

3. I have analyzed the conductive fabrics of the Carre Hexoskin product, the Sensoria Sock product, and the Victoria's Secret Sports Bra product under a scanning electron microscope ("SEM") and with Energy Dispersive Spectrometry ("EDS").

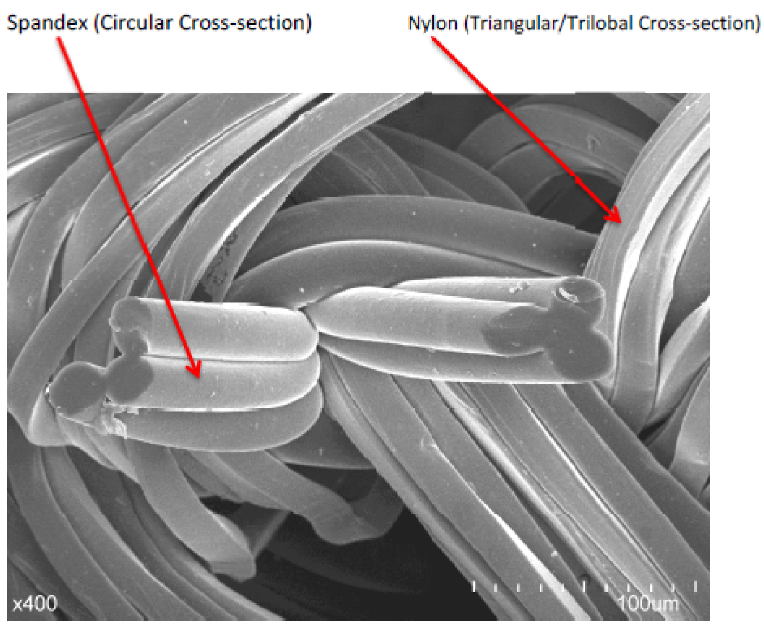
4. An SEM allows for a sample to be magnified by hundreds, or even thousands, of times its original size.

5. EDS analysis provides the primary chemical components of the subject of the analysis. For example, if a sample were primarily composed of carbon, the EDS analysis would reveal that.

6. Important to the EDS results discussed below, one must understand that to enhance the image generated by an SEM, a sample must be very lightly coated with a conductive material.

Carre

7. A true and accurate representation of images from the SEM examination of the Carre Hexoskin product are below. I have added appropriate labels and explanations for clarity. For ease of reference, I have attempted to identify fibers by a particular type (i.e., spandex/nylon) given my expertise in the art, but cannot definitively confirm that the labels are correct without additional testing. For purposes of my analysis, the exact identity of the underlying fibers is not relevant.



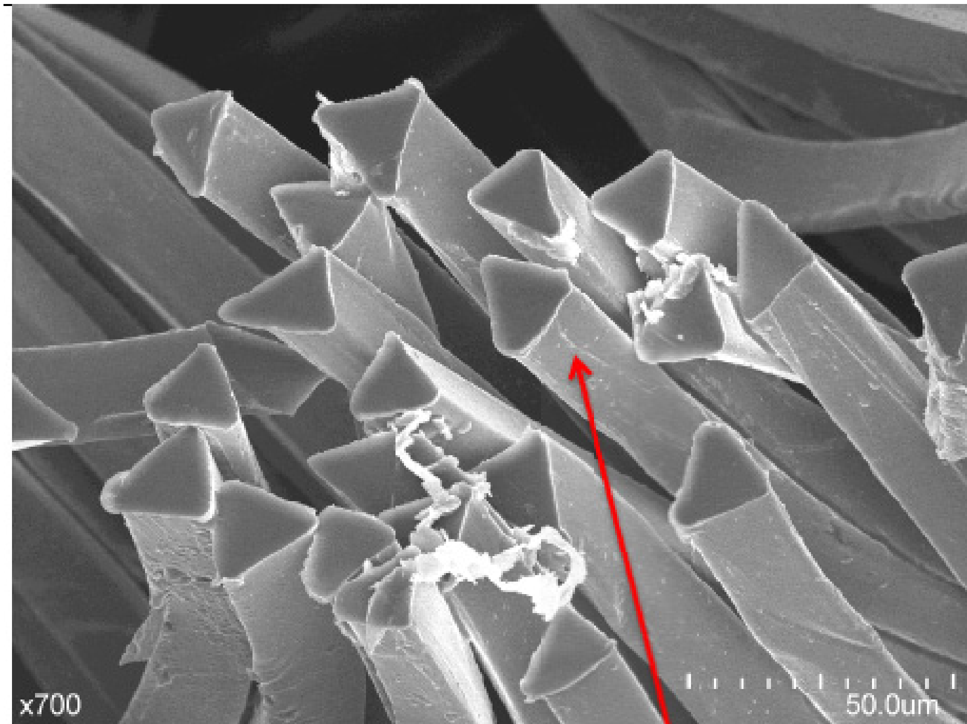
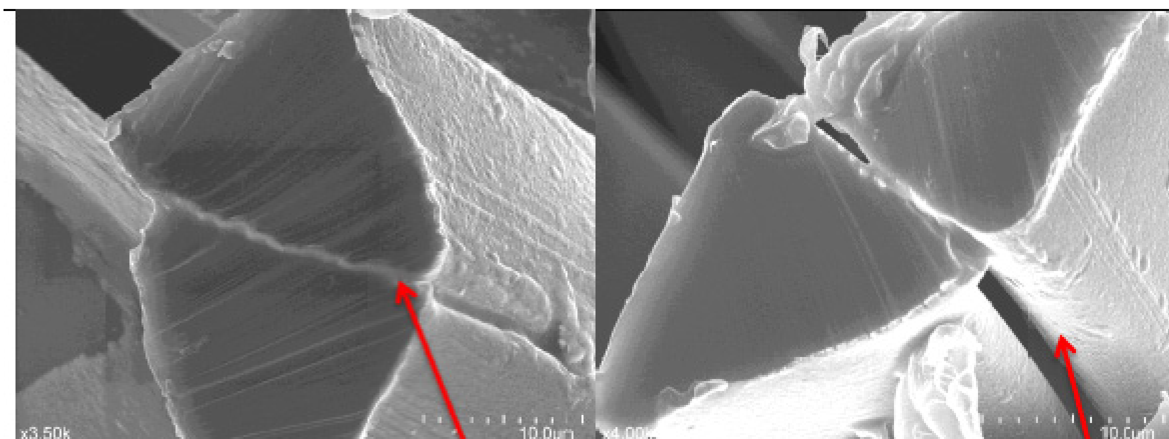


Image shows a group of Nylon yarns with silver coating around the individual yarns.



Close-up shows the two Nylon yarns uniformly and individually coated (or plated) all-around **both** the yarn surfaces. The image on the right shows a gap between the two yarns; however, despite this gap, there is evidence of coating on the surfaces of the two yarns, which indicates that the yarns were individually coated, that is, made conductive, prior to incorporation into the fabric.

8. As demonstrated above, the nylon fibers are uniformly and individually coated by a material. This would be almost impossible to achieve if the fiber were not coated prior to being incorporated into the fabric.

9. To verify that the nylon fibers were coated in a conductive material, namely silver, I conducted an EDS analysis of the nylon yarn.

10. Below are true and accurate images reflecting the results of the EDS analysis of the Carre Hexoskin product.

Sample D, Direction 1(1)

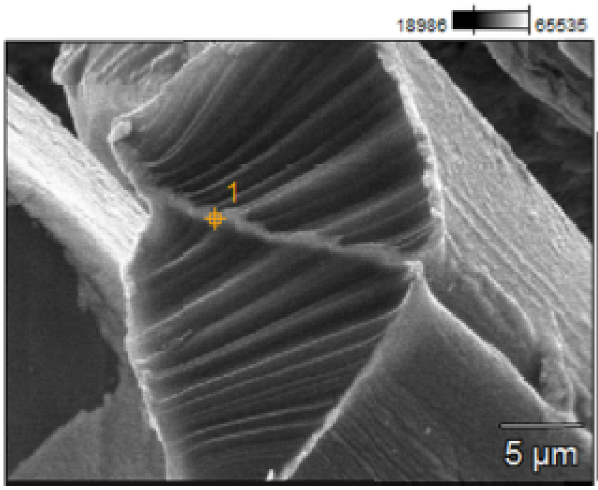
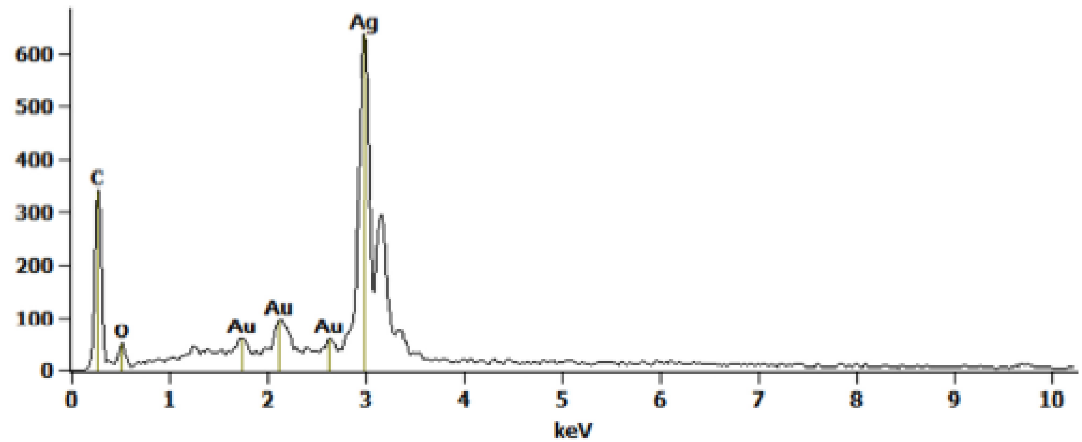


Image Name:	Sample D, Direction 1(1)
Image Resolution:	512 by 384
Image Pixel Size:	0.07 µm
Acc. Voltage:	15.0 kV
Magnification:	3500

Full scale counts: 634 **Sample D, Direction 1(1)_pt1**



Net Counts

	C-K	O-K	Ag-L	Au-M
Sample D, Direction 1(1)_pt1	2182	261	10192	1042

Weight %

	C-K	O-K	Ag-L	Au-M
Sample D, Direction 1(1)_pt1	7.8	7.6	76.9	7.7

Weight % Error (+/- 1 Sigma)

	C-K	O-K	Ag-L	Au-M
Sample D, Direction 1(1)_pt1	+/-0.1	+/-0.5	+/-2.1	+/-0.5

Atom %

	C-K	O-K	Ag-L	Au-M
Sample D, Direction 1(1)_pt1	34.5	25.4	38.0	2.1

Sample D, Direction 2, triangle(1)

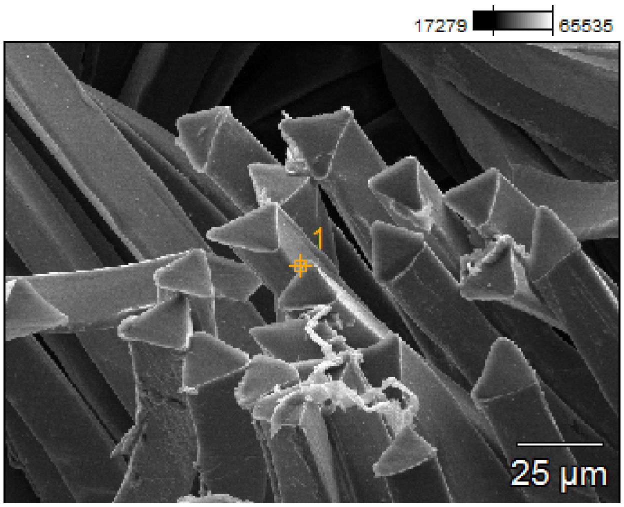
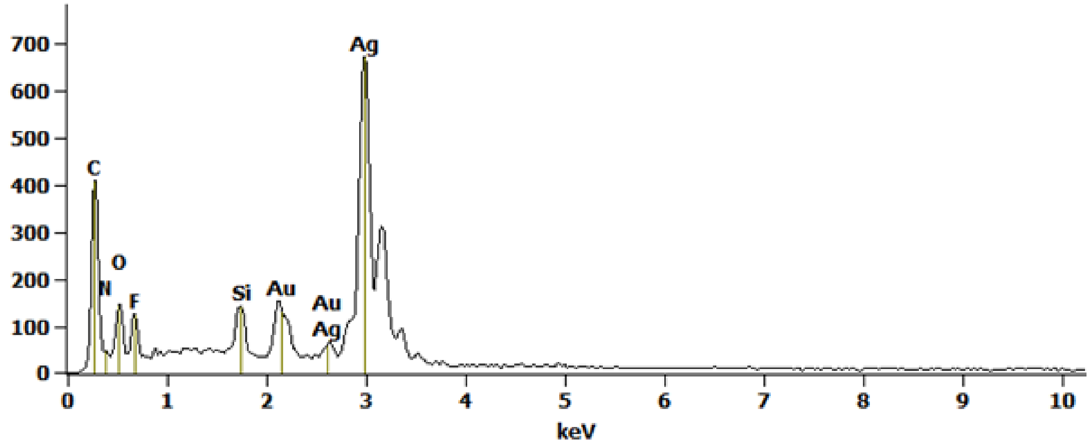


Image Name:	Sample D, Direction 2, triangle(1)
Image Resolution:	512 by 384
Image Pixel Size:	0.36 µm
Acc. Voltage:	15.0 kV
Magnification:	700

Full scale counts: 672 **Sample D, Direction 2, triangle(1)_pt1**



Net Counts

	C-K	N-K	O-K	F-K	Si-K	Ag-L	Au-M
Sample D, Direction 2, triangle(1)_pt1	2647	284	927	634	984	10127	1872

Weight %

	C-K	N-K	O-K	F-K	Si-K	Ag-L	Au-M
Sample D, Direction 2, triangle(1)_pt1	8.2	3.3	15.0	9.8	2.4	52.0	9.2

Weight % Error (+/- 1 Sigma)

	C-K	N-K	O-K	F-K	Si-K	Ag-L	Au-M
Sample D, Direction 2, triangle(1)_pt1	+/-0.2	+/-0.7	+/-1.0	+/-0.9	+/-0.1	+/-1.5	+/-0.4

Atom %

	C-K	N-K	O-K	F-K	Si-K	Ag-L	Au-M
Sample D, Direction 2, triangle(1)_pt1	22.9	7.8	31.4	17.3	2.9	16.1	1.6

11. The initial spike in "C," or carbon, in the EDS analysis is consistent with the nylon portion of the yarn. The spike of "Ag," or silver, is consistent with a silver coating to the yarn.

12. The small spikes of "Au," or gold, are consistent with the light coating imparted to enhance the image of the SEM.

13. Accordingly, the nylon fibers have a silver coating applied to each fiber uniformly and individually. It is my opinion, as one of at least ordinary skill in the art, that to get the uniform, individual coating demonstrated in the above images, the fibers would have to be coated prior to being knitted or woven into the fabric rather than after.

14. Accordingly, the fibers are individually conductive prior to being knitted or woven into the fabric and meet the corresponding limitation of claim 1.

Sensoria

15. I also conducted SEM and EDS analysis of the Sensoria Sock product.

16. A true and accurate representation of images from the SEM examination of Sensoria's Sock product are below. I have added appropriate labels and explanations for clarity. For ease of reference, I have attempted to identify fibers by a particular type (i.e., spandex/nylon) given my expertise in the

art, but cannot definitively confirm that the labels are correct without additional testing. For purposes of my analysis, the exact identity of the underlying fibers is not relevant.

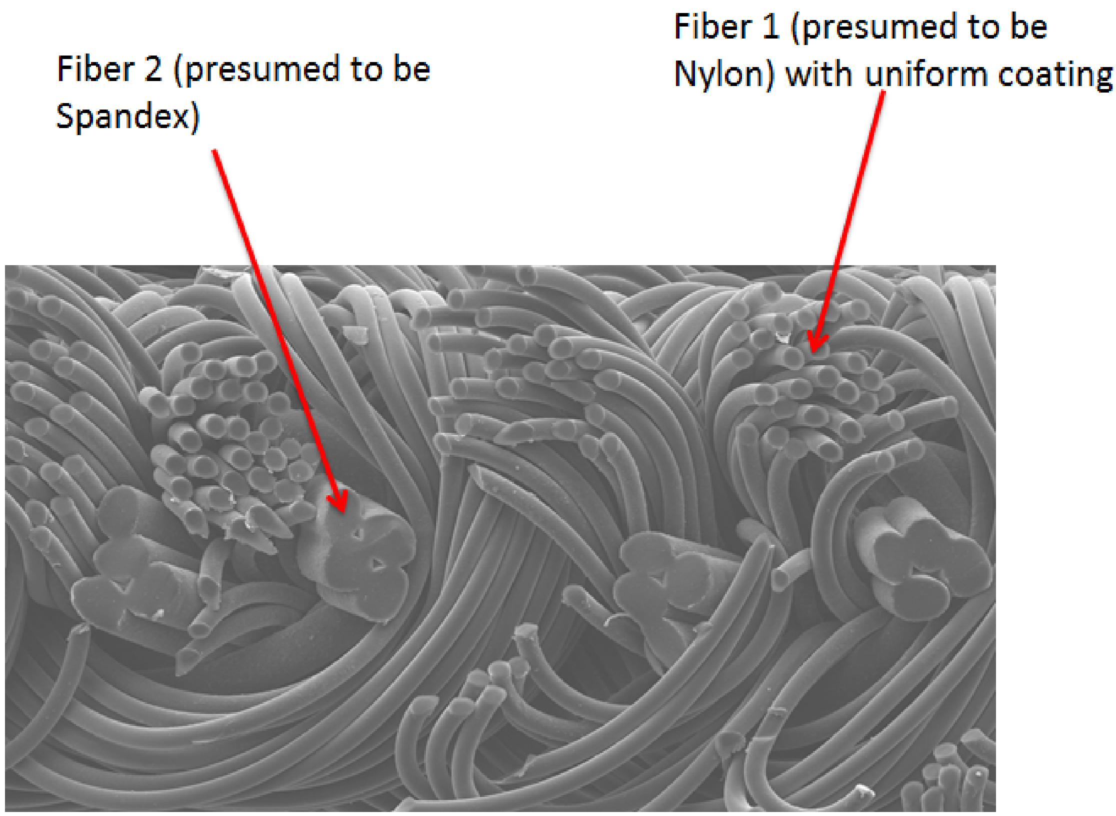


Image shows the cross-section of the yarns in the fabric: Nylon and Spandex

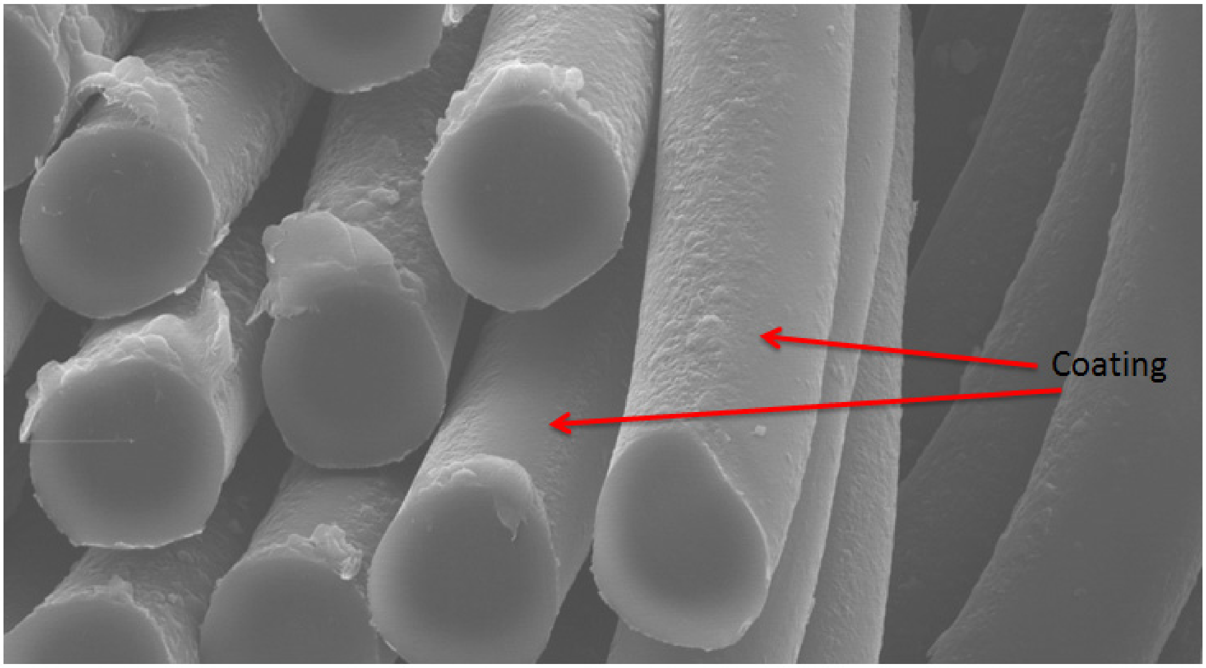


Image shows a group of Nylon yarns: Observe the uniform individual coating of the yarns – Fiber 1 (Nylon).

17. Below is a true and accurate representation of the EDS analysis of the interior of the fiber that is presumed to be nylon.

Sample G, Direction 1, small round interior(1)

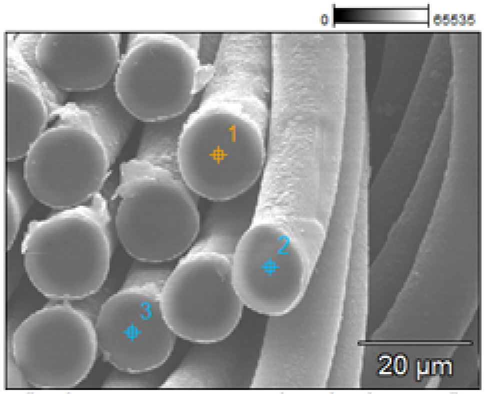
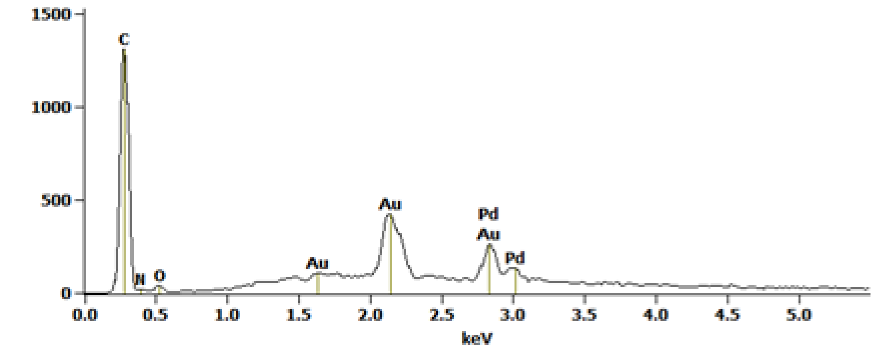
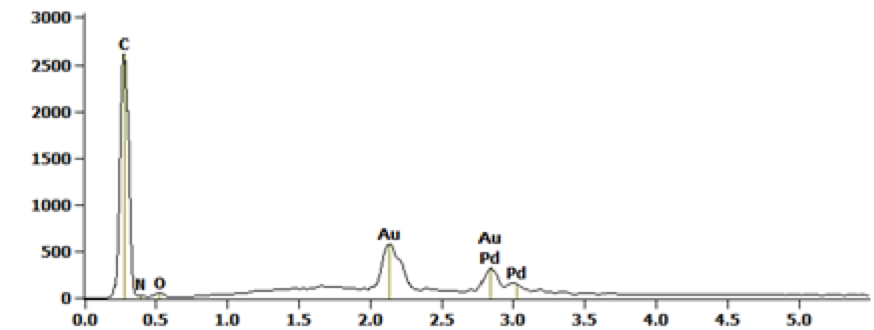


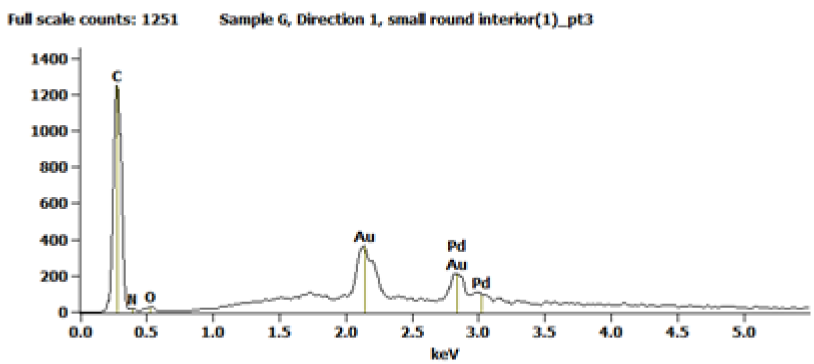
Image Name:	Sample G, Direction 1, small round interior(1)
Image Resolution:	512 by 384
Image Pixel Size:	0.17 µm
Acc. Voltage:	15.0 kV
Magnification:	1500

Full scale counts: 1307 **Sample G, Direction 1, small round interior(1)_pt1**



Full scale counts: 2610 **Sample G, Direction 1, small round interior(1)_pt2**





Net Counts

	C-K	N-K	O-K	Pd-L	Au-M
Sample G, Direction 1, small round interior(1)_pt1	7823	148	176	3250	5776
Sample G, Direction 1, small round interior(1)_pt2	15198	268	358	4391	8008
Sample G, Direction 1, small round interior(1)_pt3	7551	102	131	3151	4728

Weight %

	C-K	N-K	O-K	Pd-L	Au-M
Sample G, Direction 1, small round interior(1)_pt1	32.9	5.0	3.8	23.8	34.4
Sample G, Direction 1, small round interior(1)_pt2	38.6	6.1	5.0	20.1	30.2
Sample G, Direction 1, small round interior(1)_pt3	34.8	4.1	3.3	25.9	32.0

Weight % Error (+/- 1 Sigma)

	C-K	N-K	O-K	Pd-L	Au-M
Sample G, Direction 1, small round interior(1)_pt1	+/-0.4	+/-1.4	+/-0.5	+/-0.9	+/-1.1
Sample G, Direction 1, small round interior(1)_pt2	+/-0.4	+/-1.3	+/-0.7	+/-0.6	+/-0.5
Sample G, Direction 1, small round interior(1)_pt3	+/-0.4	+/-1.6	+/-0.6	+/-1.7	+/-1.1

Atom %

	C-K	N-K	O-K	Pd-L	Au-M
Sample G, Direction 1, small round interior(1)_pt1	73.3	9.6	6.4	6.0	4.7
Sample G, Direction 1, small round interior(1)_pt2	74.7	10.1	7.3	4.4	3.6
Sample G, Direction 1, small round interior(1)_pt3	76.3	7.6	5.4	6.4	4.3

18. As can be seen above, the net count of C, or carbon, varies from a minimum of 7551 to a maximum of 15198, depending on the fiber selected.

19. Below is a true and accurate representation of the EDS analysis of the surface of the fiber that is presumed to be nylon.

Sample G, Direction 1, small round(1)

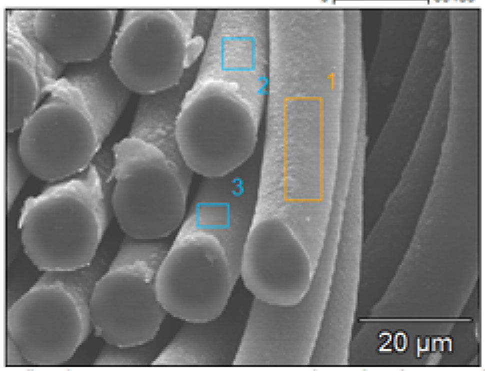
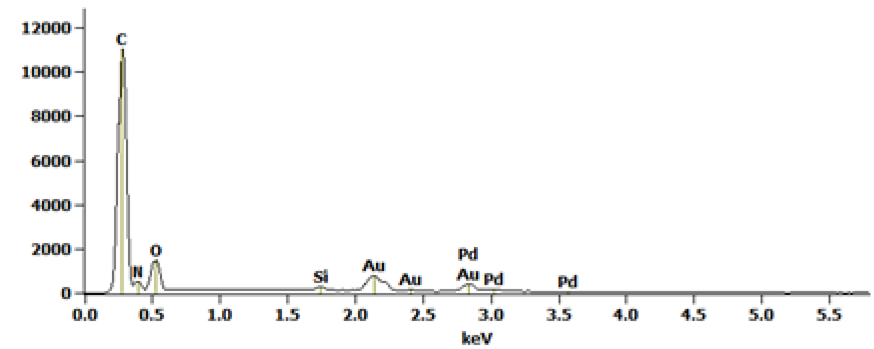
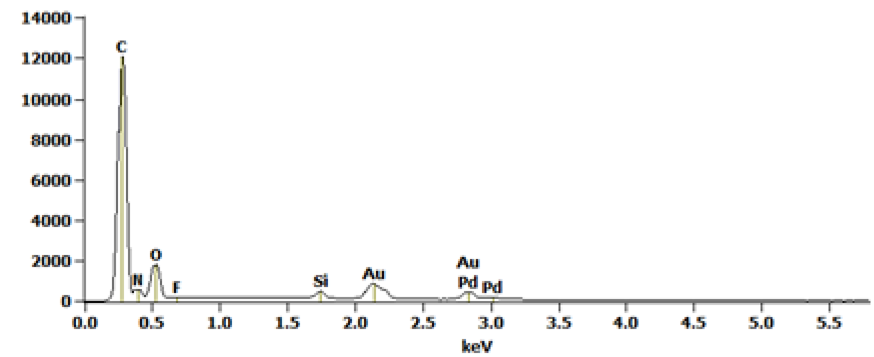


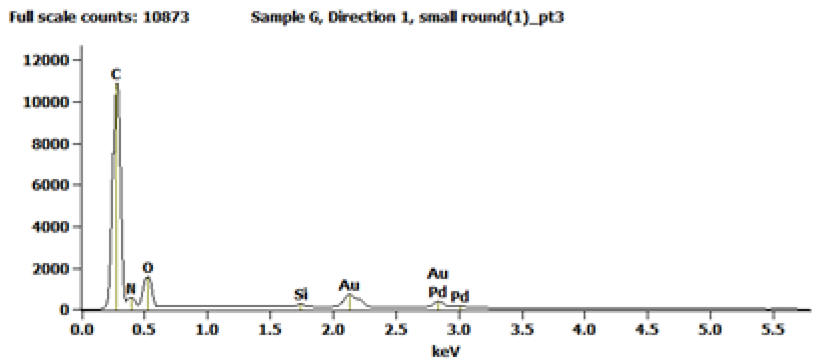
Image Name:	Sample G, Direction 1, small round(1)
Image Resolution:	512 by 384
Image Pixel Size:	0.17 µm
Acc. Voltage:	15.0 kV
Magnification:	1500

Full scale counts: 11007 **Sample G, Direction 1, small round(1)_pt1**



Full scale counts: 12052 **Sample G, Direction 1, small round(1)_pt2**





Net Counts

	C-K	N-K	O-K	F-K	Si-K	Pd-L	Au-M
Sample G, Direction 1, small round(1)_pt1	60689	1984	9064		1428	6142	11015
Sample G, Direction 1, small round(1)_pt2	67130	2640	11798	379	3112	7007	12433
Sample G, Direction 1, small round(1)_pt3	59881	2460	9527		1353	5641	10079

Weight %

	C-K	N-K	O-K	F-K	Si-K	Pd-L	Au-M
Sample G, Direction 1, small round(1)_pt1	39.2	11.2	30.0		0.7	7.2	11.8
Sample G, Direction 1, small round(1)_pt2	37.1	11.7	31.1	1.1	1.3	6.8	11.0
Sample G, Direction 1, small round(1)_pt3	37.9	13.2	31.1		0.7	6.5	10.6

Weight % Error (+/- 1 Sigma)

	C-K	N-K	O-K	F-K	Si-K	Pd-L	Au-M
Sample G, Direction 1, small round(1)_pt1	+/-0.6	+/-1.8	+/-0.6		+/-0.1	+/-0.3	+/-0.2
Sample G, Direction 1, small round(1)_pt2	+/-0.6	+/-1.6	+/-0.5	+/-0.3	+/-0.0	+/-0.3	+/-0.1
Sample G, Direction 1, small round(1)_pt3	+/-0.6	+/-1.7	+/-0.7		+/-0.1	+/-0.3	+/-0.2

Atom %

	C-K	N-K	O-K	F-K	Si-K	Pd-L	Au-M
Sample G, Direction 1, small round(1)_pt1	53.6	13.1	30.8		0.4	1.1	1.0
Sample G, Direction 1, small round(1)_pt2	50.7	13.7	32.0	0.9	0.8	1.0	0.9
Sample G, Direction 1, small round(1)_pt3	51.0	15.2	31.5		0.4	1.0	0.9

20. As can be seen above, the net count of C, or carbon, now varies from a minimum of 59,881 to a maximum of 60,689. This indicates to me, as one of ordinary skill in the art, that the fiber presumed to be nylon has been coated causing an increase in the carbon count.

21. Below is a true and accurate representation of the EDS analysis of the interior of the fiber that is presumed to by spandex.

Sample G, Direction 2, round large(1)

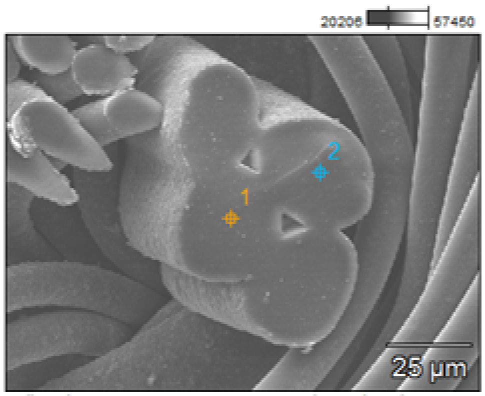
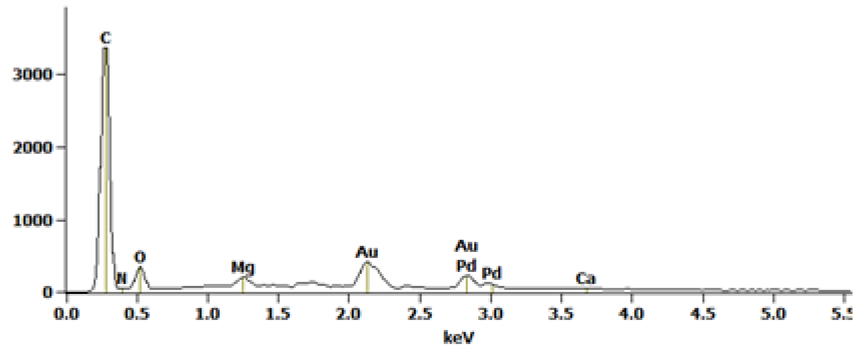
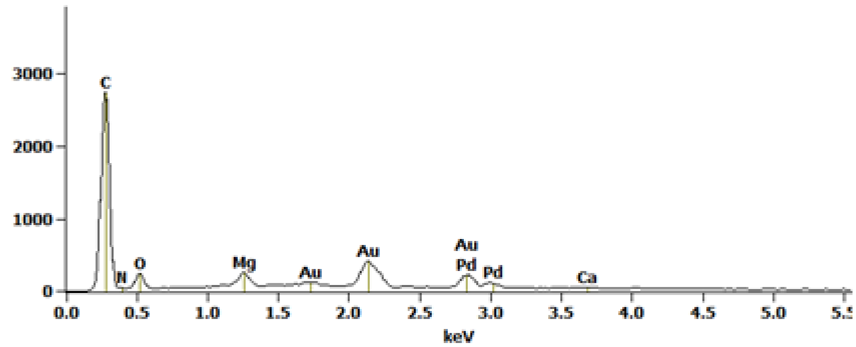


Image Name:	Sample G, Direction 2, round large(1)
Image Resolution:	512 by 384
Image Pixel Size:	0.28 µm
Acc. Voltage:	15.0 kV
Magnification:	900

Full scale counts: 3363 **Sample G, Direction 2, round large(1)_pt1**



Full scale counts: 3363 **Sample G, Direction 2, round large(1)_pt2**



Net Counts

	C-K	N-K	O-K	Mg-K	Ca-K	Pd-L	Au-M
Sample G, Direction 2, round large(1)_pt1	22102	483	2173	1043	281	2922	6036
Sample G, Direction 2, round large(1)_pt2	16513	380	1536	1410	467	3080	5735

Weight %

	C-K	N-K	O-K	Mg-K	Ca-K	Pd-L	Au-M
Sample G, Direction 2, round large(1)_pt1	41.4	8.1	20.8	1.8	0.7	9.6	17.5
Sample G, Direction 2, round large(1)_pt2	38.8	7.5	17.6	3.0	1.4	12.1	19.7

Weight % Error (+/- 1 Sigma)

	C-K	N-K	O-K	Mg-K	Ca-K	Pd-L	Au-M
Sample G, Direction 2, round large(1)_pt1	+/-0.4	+/-1.7	+/-0.6	+/-0.1	+/-0.1	+/-0.4	+/-0.5
Sample G, Direction 2, round large(1)_pt2	+/-0.4	+/-1.7	+/-0.6	+/-0.1	+/-0.1	+/-0.5	+/-0.6

Atom %

	C-K	N-K	O-K	Mg-K	Ca-K	Pd-L	Au-M
Sample G, Direction 2, round large(1)_pt1	61.6	10.4	23.2	1.4	0.3	1.6	1.6
Sample G, Direction 2, round large(1)_pt2	61.7	10.2	21.0	2.3	0.7	2.2	1.9

22. As can be seen above, the net count of C, or carbon, various from a minimum of 16,513 to a maximum of 22,102.

23. Below is a true and accurate representation of the EDS analysis of the exterior of the fiber presumed to be spandex.

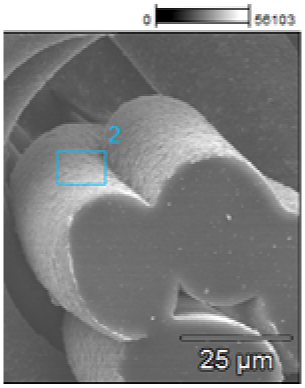
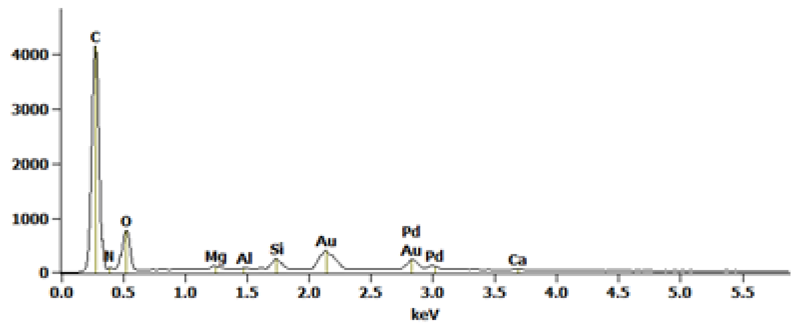


Image Name:	Sample G, Direction 2, round large (2)
Image Resolution:	512 by 384
Image Pixel Size:	0.21 µm
Acc. Voltage:	15.0 kV
Magnification:	1200

Full scale counts: 4148 **Sample G, Direction 2, round large and small(1)_pt2**



Net Counts

	C-K	N-K	O-K	Mg-K	Al-K	Si-K	Ca-K	Pd-L	Au-M
Sample G, Direction 2, round large and small(1)_pt2	24118	782	5066	618	209	1598	229	3192	5441

Weight %

	C-K	N-K	O-K	Mg-K	Al-K	Si-K	Ca-K	Pd-L	Au-M
Sample G, Direction 2, round large and small(1)_pt2	36.0	8.7	32.3	0.8	0.2	1.7	0.4	7.7	12.1

Weight % Error (+/- 1 Sigma)

	C-K	N-K	O-K	Mg-K	Al-K	Si-K	Ca-K	Pd-L	Au-M
Sample G, Direction 2, round large and small(1)_pt2	+/-0.4	+/-1.4	+/-0.8	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.3	+/-0.4

Atom %

	C-K	N-K	O-K	Mg-K	Al-K	Si-K	Ca-K	Pd-L	Au-M
Sample G, Direction 2, round large and small(1)_pt2	50.9	10.6	34.3	0.6	0.1	1.0	0.2	1.2	1.0

24. As can be seen above, the net count of C, or carbon, on the surface of the fiber presumed to be spandex is 24,118. This is generally consistent with the interior amount of carbon. Most importantly, there is nowhere near the increase in carbon count that was noted on the fiber presumed to be nylon. This indicates to

me, as one of ordinary skill in the art, that the fiber presumed to be spandex had similar levels of carbon count on the interior and the surface.

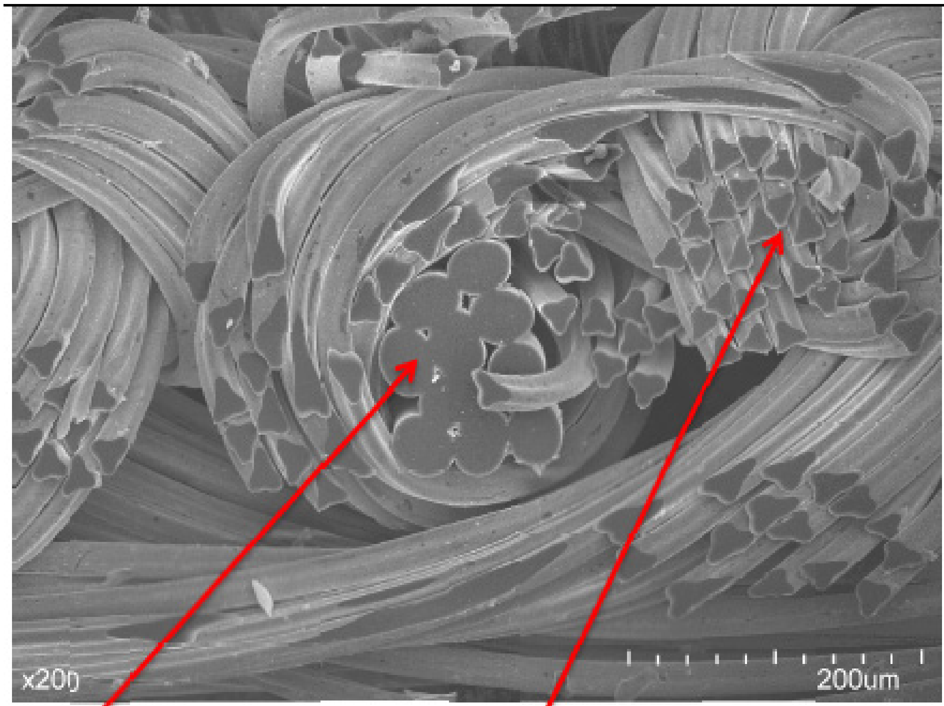
25. If a coating were added to the fabric to impart conductivity <u>after</u> being knitted or woven, I would expect to see a noticeable and similar increase in amount of carbon present on both the presumably nylon and presumably spandex fibers. Because there is not, that indicates to me that the coating of the fiber to impart conductivity was done prior to being knitted or woven into the fabric.

26. Accordingly, the fibers are individually conductive prior to being knitted or woven into the fabric and meet the relevant limitation of claim 1.

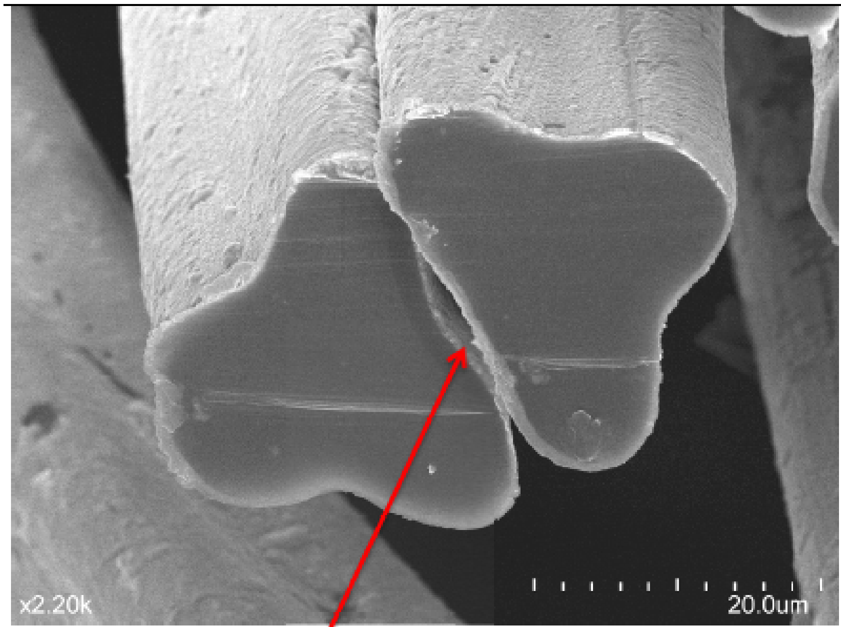
<u>Victoria's Secret</u>

27. I also conducted SEM and EDS analysis of the Victoria's Secret Sports Bra product.

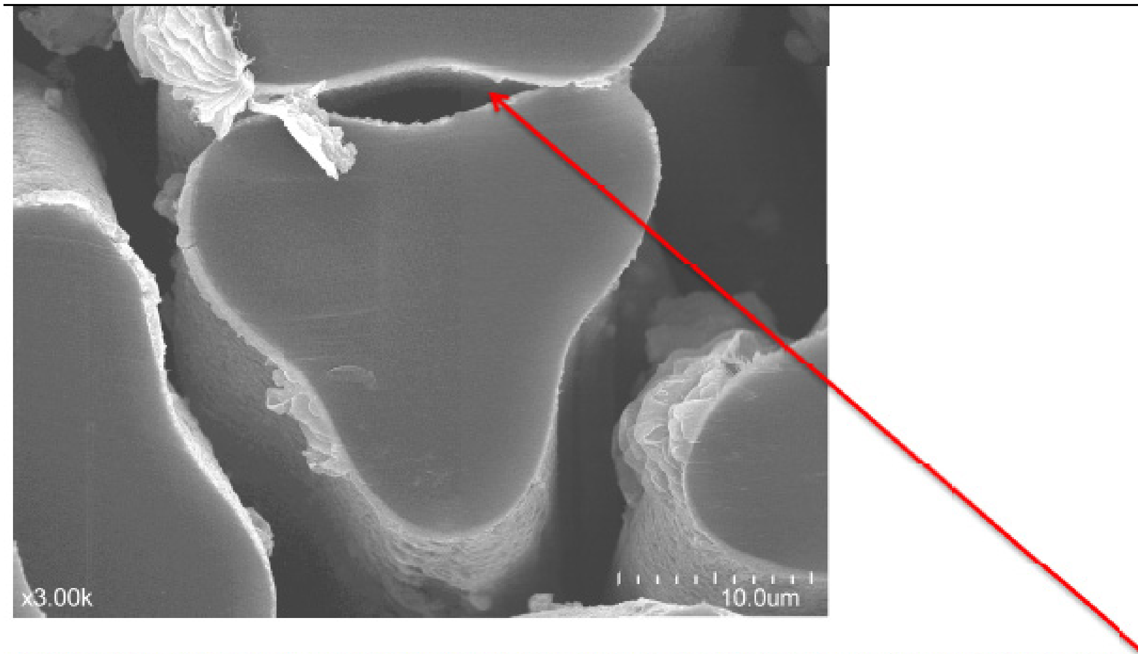
28. A true and accurate representation of images from the SEM examination of the Victoria's Secret Sports Bra product are below. I have added appropriate labels and explanations for clarity. For ease of reference, I have attempted to identify fibers by a particular type (i.e., spandex/nylon) given my expertise in the art, but cannot definitively confirm that the labels are correct without additional testing. For purposes of my analysis, the exact identity of the underlying fibers is not relevant.



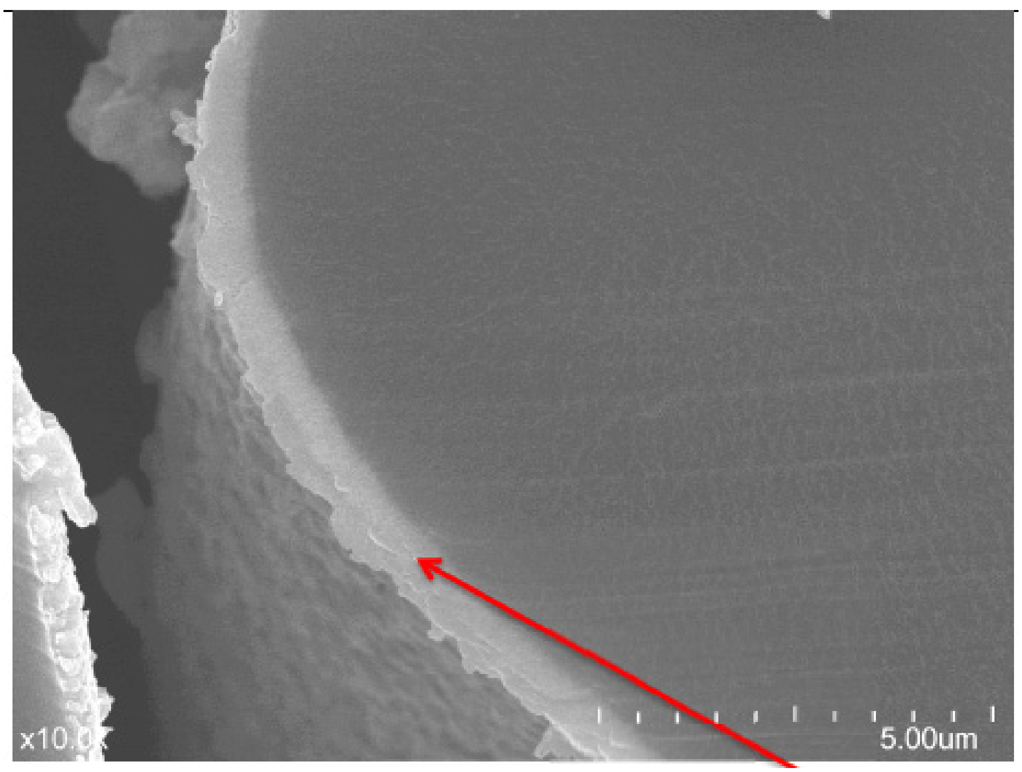
Spandex (Circular Cross-section)   Nylon (Triangular/Trilobal Cross-section)



Close-up shows the two Nylon yarns uniformly and individually coated (or plated) all-around **both** the yarn surfaces, including the gap between the two yarns, which indicates that the yarns were individually coated prior to incorporation into the fabric.



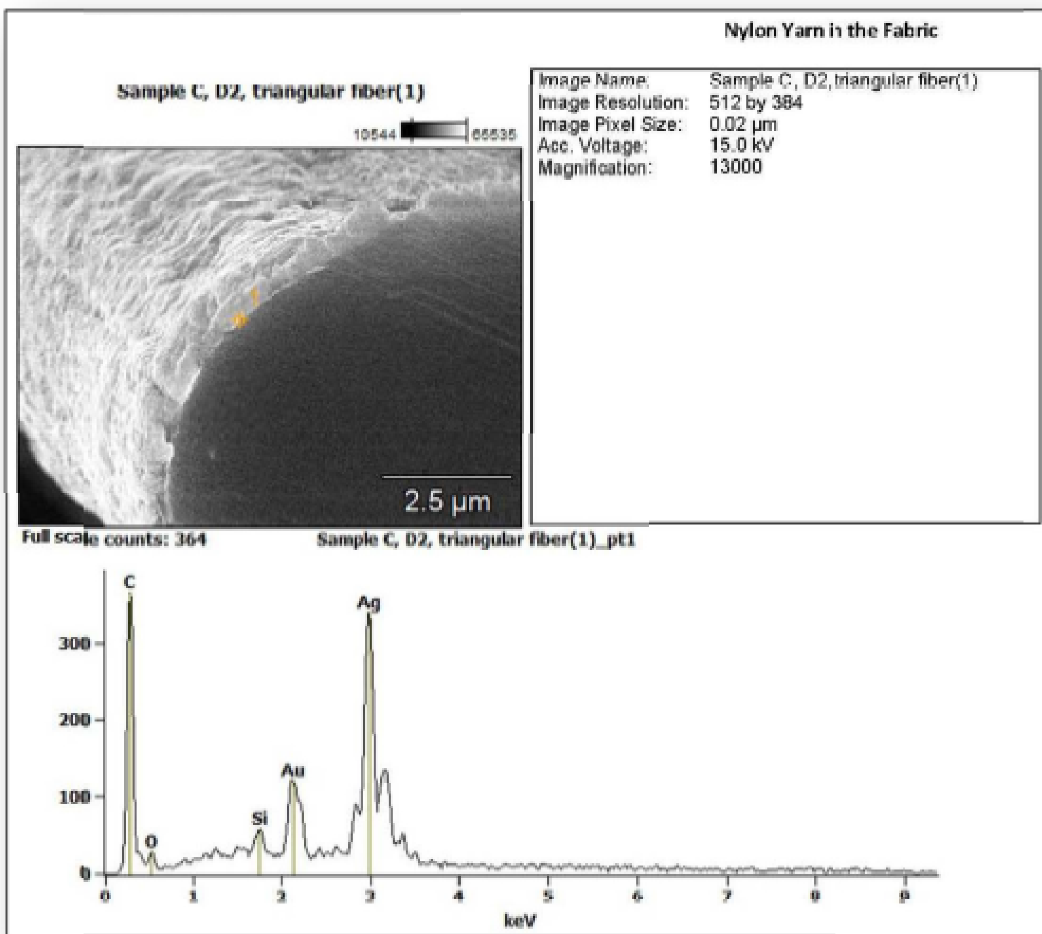
Another view of Nylon yarns showing individual coating all-around the yarn surface, including in the gap between yarns.



Close-up of individual nylon yarn showing the conductive coating.

29. As demonstrated above, the nylon yarn appears to have a uniform and consistent coat of a material, suspected to be silver. The spandex does not appear to be coated with any material.

30. A true and accurate copy of the results of the EDS analysis of the nylon and spandex yarns are below.



Net Counts

	C-K	O-K	Si-K	Ag-L	Au-M
Sample C, D2, triangular fiber(1)_pt1	2306	72	291	4239	1717

Weight %

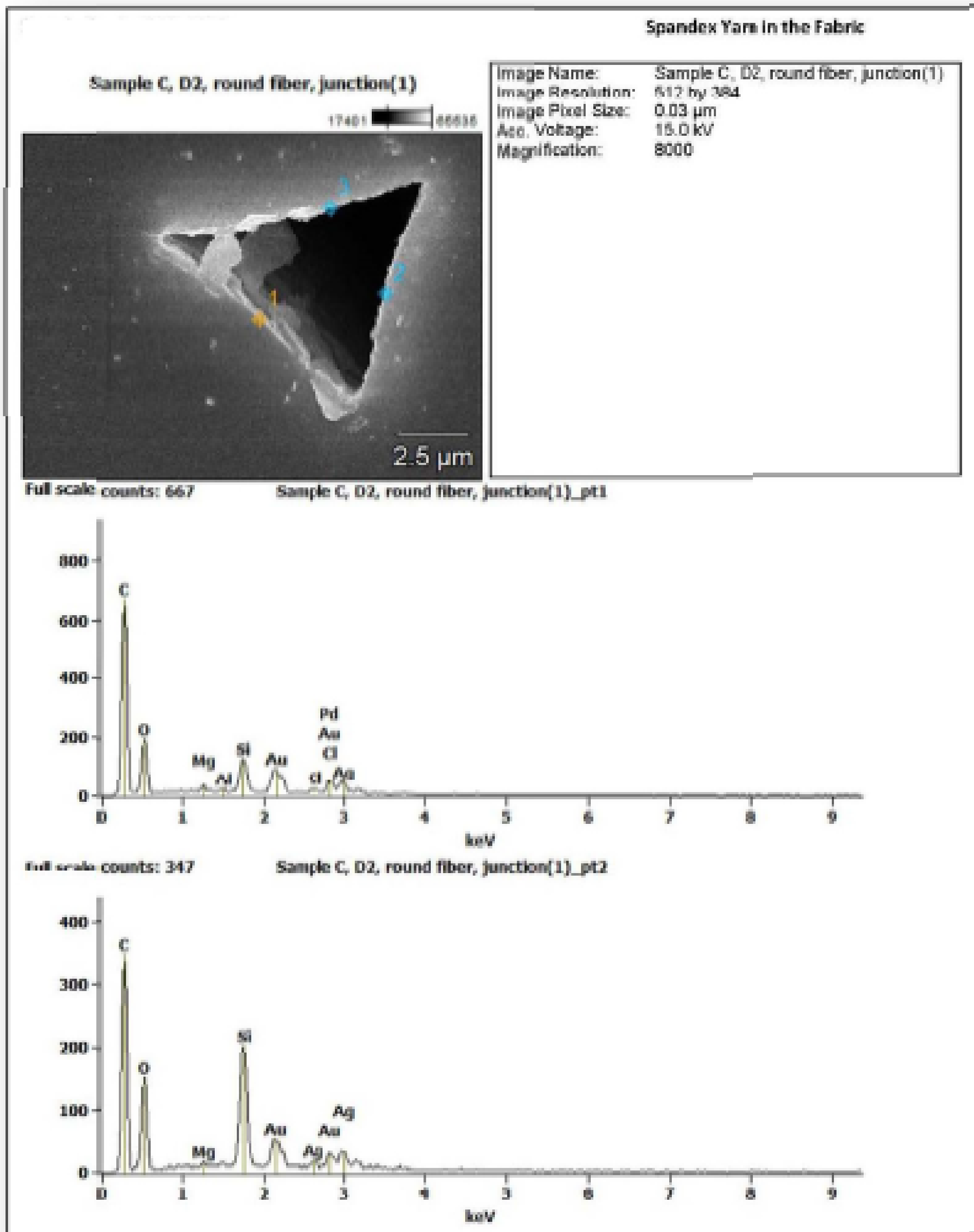
	C-K	O-K	Si-K	Ag-L	Au-M
Sample C, D2, triangular fiber(1)_pt1	17.7	3.4	1.8	56.4	20.7

Weight % Error (+/- 1 Sigma)

	C-K	O-K	Si-K	Ag-L	Au-M
Sample C, D2, triangular fiber(1)_pt1	+/-0.3	+/-0.8	+/-0.2	+/-2.8	+/-0.8

Atom %

	C-K	O-K	Si-K	Ag-L	Au-M
Sample C, D2, triangular fiber(1)_pt1	62.0	9.0	2.6	22.0	4.4


Spandex Yarn in the Fabric
Sample C, D2, round fiber, junction(1)
Image Name: Sample C, D2, round fiber, junction(1)
Image Resolution: 512 by 384
Image Pixel Size: 0.03 µm
Acc. Voltage: 15.0 kV
Magnification: 8000
2.5 µm
Full scale counts: 667
Sample C, D2, round fiber, junction(1)_pt1
C
O
Mg
Al
Si
Au
Pd
Au
Cl
Cl
Ag
keV
Full scale counts: 347
Sample C, D2, round fiber, junction(1)_pt2
C
O
Mg
Si
Au
Ag
Au
Ag
keV

31. As with Carre, the nylon yarn contains a large amount of "C," or carbon, which is consistent with nylon. There is also a large amount of "Ag," or silver, which is consistent with a silver coating on the nylon yarn. The "Au" or gold, is consistent with the slight conductivity imparted when preparing the sample for the SEM.

32. An analysis of the spandex yarn also contains a large amount of "C," or carbon, which is also consistent with spandex. The "Au," or gold, continues to be consistent with the conductivity imparted when preparing the sample for the SEM. The slight amount of Ag, or silver, is also consistent with the conductivity imparted when preparing the sample for the SEM. While such readings are also present on all the other fibers, they are negligible because of the silver coating applied to the fiber.

33. Because the nylon fibers have a large amount of silver uniformly and thoroughly coating the fibers and the spandex fibers have a negligible amount of silver consistent with the conductivity imparted to prepare the fibers for the SEM, it is my opinion, as one of at least ordinary skill in the art, that the fabric was not dipped in a conductive material after being formed. If the fabric were dipped in conductive material after being formed, one would expect to see a similar amount of silver on both the spandex and nylon fibers.

34. Accordingly, it is my opinion, as one of at least ordinary skill in the art, that the nylon fibers were individually coated with silver prior to being knitted or woven into the fabric rather than after.

35. Accordingly, the fibers are individually conductive prior to being knitted or woven into the fabric and meet the relevant limitation of claim 1.

Electrical Lead

36. The relevant portion of claim 1 reads as follows: "an electrical lead for connection to a connector, the electrical lead being formed from one of the integrated individually conductive fibers[.]"

37. According this language its plain meaning, in view of the patent and file history, one of ordinary skill in the art would understand that this limitation would be met as long as any portion of the electrical lead is formed from the integrated individually conductive fiber. This language does not require the entire lead to the connector to be formed from the integrated individually conductive fiber. Accordingly, this limitation is met even if only the beginning portion of the electrical lead for connection to a connector is formed from the integrated fully conductive fiber.

38. This understanding is made clear by Figure 3 of the '731 patent, which demonstrates that the electrical lead being formed from one of the

integrated individually conductive fibers can connect to the connector through another medium, which, in Figure 3, is a conductive thread. The electrical lead being formed from one of the integrated individually conductive fibers only needs to be in electrical communication with the connector; it does not need to be directly connected to the connector.

39. Accordingly, Carre's Hexoskin product, OMSignal's Performance Apparel product, Ralph Lauren's Polo Tech Shirt product, Sensoria's sock product, and adidas's miCoach Performance Tech product meet the relevant limitation of claim 1, because in each product the fabric sensor forms the initial portion of the electrical lead to the connector and is in electrical communication with the connector.

Fully-Conductive Fabric

40. The relevant portion of claim 1 reads as follows: "a knitted or woven fully-conductive fabric[.]"

41. According this language its plain meaning, in view of the patent and file history, one of ordinary skill in the art would understand that this limitation would be met as long as the fabric was conductive throughout the fabric, rather than, for example, only along a particular axis of the fabric.

42. This understanding is made clear by the patent and file history. The patent and file history note that, in the prior art, fabrics existed that were not conductive throughout the fabric and were conductive, for example, only along a particular axis. Such fabrics still have some conductivity, and could therefore be described as conductive fabrics. However, such fabrics are not fully conductive fabrics.

43. Accordingly, a fully-conductive fabric can incorporate non-conductive fibers, as long as the fabric itself remains conductive throughout the fabric.

44. I have conducted an electrical analysis of the Sensoria Sock product and the Adidas miCoach product, and both products contain a fully conductive fabric, i.e., a fabric that is conductive throughout. Neither of these products appeared to have a limit in its conductivity, such as along a particular axis.

Invalidity

45. I have analyzed the patents cited by the parties. For the reasons stated below, none of the cited patents anticipates the '731 patent or renders it obvious.

U.S. Patent No. 5,906,004 to Lebby et al.

46. The conductive fabric in U.S. Patent No. 5,906,004 to Lebby ("Lebby") is not a sensor, but instead functions as an antenna. As one of ordinary

skill in the art, I do not understand any disclosure in Lebby to meet the "sensor" or "monitor" elements of claim 1 of the '731 patent. Accordingly, Lebby does not anticipate the '731 patent.

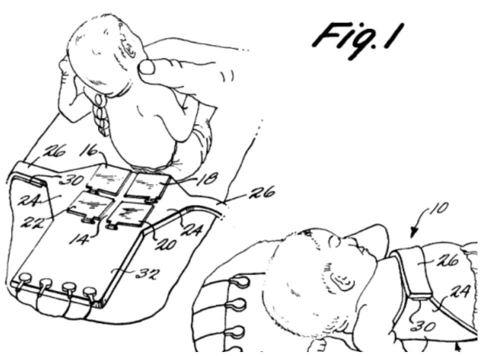
47. Additionally, as one of ordinary skill in the art, it would be impractical to substitute a fabric containing an antenna for a fabric designed to monitor vital signs or electrical impulses of a subject, and there would be no reason to make such a substitution.

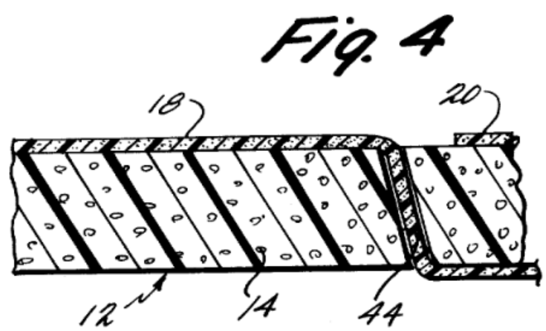
U.S. Patent No. 3,888,240 to Reinhold, Jr. et al.

48. Upon review, U.S. Patent No. 3,888,240 to Reinhold ("Reinhold") discloses a disposable electrode assembly and method. As stated in Reinhold, "[i]n accordance with the principles of the present invention, an attaching structure is provided which will maintain a plurality of flexible sheet form electrodes against the back of an infant in such a way as to maintain reliable non-adhesive contact over an extended period of time without strapping the infant to the incubator, without requiring the infant to wear tight fitting elastic garments or to be immobile." Column 3, lines 17-24.

49. FIG. 1 and FIG. 4 of Reinhold are provided below. Reinhold describes FIG. 1 as "illustrating the manner in which a preferred electrode assembly embodying the principles of the present invention is disposed in attached

relation with an infant," where the principles of the present invention are stated above. Column 3, lines 59-62. Correspondingly, FIG. 4 of Reinhold is stated as "illustrating an electrode assembly of modified form embodying the principles of the present invention." Column 4, lines 1-4.





50. In reference to FIGs. 1 and 4, Reinhold also states that "the electrode assembly comprises a sheet-like pad 12 of soft pliable non-conductive material having an infant back receiving area 14. . . . A plurality of separate flexible sheet form electrodes 16, 18, 20 and 22 of conductive particle impregnated plastic material are affixed in surface-to-surface engagement with the pad 12 so as to extend substantially through the back receiving area thereof." Column 4, lines 15-24. Reinhold adds that "it will be understood that the terms 'pads of soft pliable material' and 'flexible sheet form electrodes' are not limited to the preferred

embodiments specifically described above but comprehend other types of construction." Column 5, lines 37-41.

51. It is my understanding, as one of ordinary skill in the art, that "other types of construction" should also satisfy and be consistent with "the principles of the present invention," as stated in the reference. Reinhold states that "For example, the pad and electrodes could be formed of woven or knitted material with the electrodes being provided by electrically conductive yarns (e.g., carbon powder loaded resin or metallic coated thread) positioned in the fabric to engage the infant's back by the weaving or knitted operation." Column 5, lines 41-47. In this example, the 'pads of soft pliable material' is disclosed to be woven or knitted material, where the pads of soft pliable material is also known to be non-conductive material as stated in column 4, lines 15-24. Accordingly, the 'pads of soft pliable material' is in the form of woven or knitted non-conductive material in one "other type of construction."

52. As also stated in this example, the 'flexible sheet form electrodes' are disclosed to be electrically conductive yarns "positioned" in the fabric. It is noted that the term "positioning" is consistent with the previously used term "affixed" for the preferred embodiment. *See* column 4, lines 15-24 ("conductive particle

impregnated plastic material are affixed in surface-to-surface engagement with the pad 12 so as to extend substantially through the back receiving area thereof").

53. However, the terms "positioned" or "affixed" do not disclose or require that the conductive yarns be necessarily woven or knitted to form a fabric-based sensor, as described by claim 1. Rather, the above-example only states that the fabric engages the infant's back by the weaving or knitted operation (of the non-conductive material), where the conductive yarns are positioned in the fabric. *See* column 5, lines 41-47 ("positioned in the fabric to engage the infant's back by the weaving or knitted operation").

54. Further, FIG. 4 is stated as "embodying the principles of the present invention," in which flexible sheet form electrodes 16, 18, 20 and 22 are shown to be positioned or affixed on soft pliable non-conductive material 12. Again, it is noted that the electrodes 18 are not shown to be woven or knitted with the non-conductive material 12. Rather, the electrodes 18 are shown to be affixed or positioned on top of the non-conductive material.

55. Accordingly, it is my opinion as one of ordinary skill in the art that Reinhold is legally inadequate in disclosing all of the features of claim 1, such as "a knitted or woven fully-conductive fabric including one or more individually

conductive fibers integrated therein by the process of knitting or weaving the fabric." Accordingly, Reinhold does not anticipate the '731 patent.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information or belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: June 11, 2015.

Dr. Sundaresan Jayaraman